REMARKS

Claims 1-3, 10-13, 15, and 16 are currently pending in the application. Claims 1, 10, and 15 are in independent form.

The drawings are objected to in the outstanding Office Action for the reasons indicated in the accompanying form PTO 948. Corrected drawings are attached hereto and reconsideration of the objection is respectfully requested.

Claims 1-3, 10-13, 15, and 16 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention.

The Office Action states that claim 1 is indefinite as it is not clear what the assessment is supposed to show. Claim 1 has been amended in order to further prosecution and to state that the assessment shows levels of oxidative stress. Reconsideration of the rejection is respectfully requested.

The Office Action states that claim 3 is indefinite because a Markush group must be closed. The language of the claim has been amended to now recite closed language "consisting of" and reconsideration of the rejection is respectfully requested.

The Office Action states that claim 10 provides for the use of a kit, but does not set forth any steps involved in the process. Claim 10 has been amended to provide sufficient support to clearly discern what is included in the claim and reconsideration of the rejection is respectfully requested.

Claim 1 stands rejected under 35 U.S.C. § 102(b), as being anticipated by the Czech, et al. reference. Reconsideration of the rejection under 35 U.S.C. § 102(b), as anticipated by the Czech, et al. reference, as applied to claim 1 is respectfully requested.

Anticipation has always been held to require absolute identity in structure between the claimed structure and a structure disclosed in a single reference.

In Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 231 U.S.P.Q. 81 (Fed. Cir. 1986) it was stated: "For prior art to anticipate under §102 it has to meet every element of the claimed invention."

In Richardson v. Suzuki Motor Co., Ltd., 868 F.2d 1226, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989) it was stated: "Every element of the claimed invention must be literally present, arranged as in the claim."

The Office Action states that the Czech, et al. reference teaches a method of measuring actin polymerization upon stimulation of 5-oxo-eicosanoids, which stimulate the production of oxygen metabolites thus measuring the polymerization of proteins. However, there is no disclosure or suggestion in the Czech, et al. reference to utilize the measurements of actin polymerization to assess the oxidative stress status of cells. Further, the polymerization of actin is not by a covalent bond. Instead the polymerization of actin runs as a monomer. This is in contradistinction with presently pending independent claim 1 that claims a method of assessing the levels of oxidative stress by measuring proteins polymerized by covalent bonds *in vitro* and *in vivo* and assessing the levels of oxidant stress based upon the measurements obtained via the method. Since the Czech, et al. reference does not disclose the method of presently pending independent claim 1, the claim is patentable over the Czech, et al. reference and reconsideration of the rejection is respectfully requested.

Claims 1, 2, 10-13, 15, and 16, stand rejected under 35 U.S.C. § 102(b), as being anticipated by the Gadelha, et al. reference. Reconsideration of the rejection under 35 U.S.C. § 102(b), as anticipated by the Gadelha, et al. reference, as applied to the claims is respectfully requested. Anticipation has always been held to require absolute identity in structure between the claimed structure and a structure disclosed in a single reference.

The Office Action states that the Gadelha, et al. reference teaches that peroxynitrite anion, a potent oxidant, causes mitochondrial structural and functional alterations through lipid and protein sulfhydryl oxidation. Measuring the production of protein aggregates due to membrane thiol cross-linking assessed the oxidative damage caused by the peroxynitrite anion. When read more specifically, the method of the Gadelha, et al. reference teaches peroxynitrite dependent formation of protein aggregates due to thiol cross-linking. In contradistinction, the presently pending independent claims assay for proteins that are polymerized, but not aggregated. The methods of the presently pending independent claims do not assay protein aggregates as an index of oxidative stress. Protein aggregates are specifically not detected using the methods and kits of the presently pending independent claims. The presently pending independent claims claim the measurement of polymerized proteins and not protein aggregates. Protein aggregates are not used in the method of the presently pending independent claims because the aggregates often clog and prevent the separation of polymerized proteins from their monomer. As this would impact the effectiveness of the method and kit of the presently pending independent claims, the inclusion of protein aggregates is not beneficial and is instead selected against. Thus, the Gadelha, et al. reference does not disclose the method and kit of the presently pending independent claims, and in fact the Gadelha, et al. reference teaches away from the method and kits of the presently pending independent claims. The claims are therefore patentable over the Gadelha, et al. reference and reconsideration of the rejection is respectfully requested.

The remaining dependent claims not specifically discussed herein are ultimately dependent upon the independent claims. References as applied against these dependent claims do not make up for the deficiencies of those references as discussed above. The prior art references do not disclose the characterizing features of the independent claims discussed above. Hence, it is respectfully submitted that all of the pending claims are patentable over the prior art.

In view of the present amendment and foregoing remarks, reconsideration of the rejections and advancement of the case to issue are respectfully requested.

The Commissioner is authorized to charge any fee or credit any overpayment in connection with this communication to our Deposit Account No. 11-1449.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on February 20, 2003.

Angel Webb

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

1. A method of assessing levels of oxidant stress by measuring [polymerization of] proteins polymerized by covalent bonds not including aggregates *in vitro* and *in vivo* and indicating levels of oxidant stress based upon the measurements obtained.

3. The method according to claim 2, wherein said measuring step includes measuring polymerized proteins selected from the group consisting [essentially] of [polymerized prostaglandin H_2 synthase, nitrated-polymerized prostaglandin H_2 synthase,] polymerized cytochrome c, nitrated-polymerized cytochrome c, 30 kDa cytochrome c, nitrated 30 kDa cytochrome c, 45 kDa cytochrome c, and nitrated 45 kDa cytochrome c.

10. A kit for use in assessing oxidant stress[, said kit comprising an assay for detecting polymerized proteins] *in vitro* and *in vivo* comprising the steps of separating proteins by differences in the molecular mass using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) or chromatography under denaturing condition of a purified and mixtures of proteins; visualizing proteins with protein staining and Western blot analysis using antibody against the protein; and identifying a band on the gel and Western blot analyses with a molecular weight which when it produces a whole number when it is divided by the molecular weight of the monomeric form of the protein is an indication of oxidative stress *in vitro* and *in vivo*.

15. A method of assessing levels of oxidant stress by measuring the formation of disulfide polymerized proteins not including protein aggregates *in vitro* and *in vivo* and indicating levels of oxidant stress based upon the measurements obtained.

34. (New) The method according to claim 15, wherein said measuring step further comprises measuring prostaglandin H_2 synthase.

35. (New) The method according to claim 16, wherein said measuring step further comprises measuring prostaglandin H_2 synthase.